

IN THE CLAIMS:

1 1. (Cancelled)

1 2. (Cancelled)

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1 28. (Cancelled)

1 29. (Cancelled)

1 30. (New) A storage system adapted to provide on-disk representations of one or
2 more predetermined files served by the storage system, the system comprising:
3 an operating system resident in a memory and invoking storage operations in sup-
4 port of a file system configured to logically organize information as a hierarchical struc-
5 ture of directory and file inodes on the disk, each of the files having one or more associ-

6 ated file attributes stored on the disk as a representation embodying a stream inode asso-
7 ciated with a file inode.

1 31. (New) The storage system of claim 30 wherein each on-disk file inode includes at
2 least one stream inode.

1 32. (New) The storage system of claim 30 wherein the predetermined file comprises a
2 NTFS file.

1 32. (New) A multi-protocol data access storage system adapted to provide on-disk
2 representations of at least one file served by the storage system, the system comprising:
3 an operating system resident in a memory of the storage system and configured to
4 invoke storage operations in support of a file system configured to logically organize in-
5 formation as a hierarchical structure of directory and file on the disk, the operating sys-
6 tem including a file system protocol layer configured to provide data access in support of
7 a plurality of file system protocols, each of the files stored on the disk as a representation
8 embodying a stream inode associated with a file inode.

1 34. (New) The storage system of claim 33 wherein each on-disk file inode includes at
2 least one stream inode.

1 35. (New) The storage system of claim 34 wherein each on-disk file inode includes a
2 default stream.

1 36. (New) A system adapted to provide on-disk representations of at least one file
2 within a filer, the system comprising:
3 a processor;
4 a memory coupled to the processor and having locations addressable by the proc-
5 essor;
6 at least one disk coupled to the memory and processor; and
7 an operating system resident in the memory locations and invoking storage op-
8 erations in support of a file system configured to logically organize information as files
9 on the disk, each of the files stored on the at least one disk as a representation embodying
10 a stream inode associated with a file inode.

1 37. (New) The system of claim 36 wherein each on-disk file inode includes a default
2 data stream.

1 38. (New) The system of claim 36 further comprising a storage adapter intercon-
2 nected with the processor, memory and disk, the storage adapter cooperating with the op-
3 erating system to access the information stored on the disk.

1 39. (New) The system of claim 36 further comprising a network adapter coupled to
2 the processor and memory of the filer, the network adapter connecting the filer to a client
3 over a computer network, the client interacting with the filer by exchanging packets en-
4 capsulating a record requesting file services from the filer using a file system protocol
5 over the network.

1 40. (New) The system of claim 39 wherein the file system protocol is a Common
2 Internet File System (CIFS) protocol and wherein the record is a CIFS record comprising
3 information pertaining to an operation directed to the named stream inode.

1 41. (New) The system of claim 40 wherein the operating system comprises a series of
2 software layers, including a file system protocol layer configured to support the CIFS
3 protocol and a file system layer.

1 42. (New) The system of claim 41 wherein the CIFS record is interpreted as directed
2 to a named data stream associated with a file and transformed into a message structure by
3 the CIFS layer, and further passed to the file system layer, where the operation is per-
4 formed.

1 43. (New) The system of claim 42 wherein the message is passed from the CIFS layer
2 to the file system layer as a function call.

1 44. (New) The system of claim 42 wherein the file system layer loads the stream
2 inode from disk into memory and accesses the stream inode as instructed by the opera-
3 tion.

1 45. (New) The system of claim 41 wherein the operating system further comprises a
2 media access layer of network drivers, network protocol layers, a disk storage layer that
3 implements a disk storage protocol and a disk driver layer that implements a disk access
4 protocol.

1 46. (New) The system of claim 45 wherein a storage access request data path through
2 the operating system layers enables performance of data storage access for the client re-
3 quest received at the filer.

1 47. (New) The system of claim 46 wherein the storage access request data path is im-
2 plemented as logic circuitry embodied within a hardware circuit.